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(54) Title: **HUMAN OBESITY SUSCEPTIBILITY GENES ENCODING PEPTIDE HORMONES AND USES THEREOF**

(57) **Abstract:** The present invention discloses the identification of human obesity susceptibility genes, which can be used for the diagnosis and prevention of obesity and related disorders. The invention more specifically discloses that the PYY? PYY and GIP gene on chromosome 17 and certain alleles thereof are related to susceptibility to obesity. The present invention relates to particular mutations in the PYY, PYY and GIP gene and expression products, as well as to diagnostic tools and kits based on these mutations. The invention can be used in the diagnosis of predisposition to or protection from, detection, prevention and/or treatment of coronary heart disease and metabolic disorders, including but not limited to hypoalphalipoproteinemia, familial combined hyperlipidemia, insulin resistant syndrome X or multiple metabolic disorder, coronary artery disease, diabetes and associated complications and dyslipidemia.

WO 2005/090600 A3